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EXAMINER

TON, ANTHONY T

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 01/30/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/643,563

Applicant(s)

KIKKAWA, HIRONORI

Examiner

Anthony T Ton

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) 55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-54 and 56-60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 and 4 6) ☐ Other: _____

DETAILED ACTIONS

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Acronym "**STRT**" in **Fig.7**. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to because of the following informalities:
Fig. 5c: Acronym "**NEIN**" in step P4, and term "**e.g.**" in step P6 are not appropriate. The examiner suggests changing them to "**NO**" and "**i.e.**" respectively.
3. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Abstract

4. The drawings are objected to because of the following informalities:
 - a) Acronyms "**TIFM**" in line 9 and "**TIFDM**" stand for "time interval selection means" and "time interval signal determining means" respectively are not appropriate. The examiner suggests changing them to "**TISM**" and "**TISDM**" respectively.

b) Title of the invention "**SUBSCRIBER ... SYSTEM**" in lines 3-5, and term "**(Fig. 7 for publication)**" in line 29 are not appropriate. The examiner suggests removing the title and term off the abstract.

Specification

5. The disclosure is objected to because of the following informalities:

a) Term "**the actual an inter-frequency**" at the bottom of page 1 is not appropriate. The examiner suggests changing this term to "**an actual inter-frequency**".

b) Term "**IF-**" in page 2 line 30 is not appropriate. The examiner suggests changing this term to "**IF**".

c) Term "**SS**" in page 6 line 1, page 17 line 9, and page 37 line 13 is not consistent with other places. The examiner suggests changing this term to "**MS**".

b) Term "**output**" in page 6 line 18, page 7 line 2, and page 8 line 32 is not appropriate. The examiner suggests changing this term to "**outputted**".

d) Acronym "**IFTS**" in PAGE 6 line 20 and line 21 is not appropriate with terms "mobile-evaluated-handover trigger signal" and "network-evaluated-handover trigger signal". The examiner suggests deleting this acronym.

e) Term "**each comprise**" in page 8 line 3 is not appropriate. The examiner suggests changing this term to "**each comprises**".

f) Term "**measurement signal IFTS**" in page 8 line 17 is not appropriate. The examiner suggests changing this term to "**measurement trigger signal IFTS**".

g) Term "**consists at least**" in page 9 line 13 is not appropriate. The examiner suggests changing this term to "**consists of at least**".

h) Acronym "**PS**" in page 9 line 14 and line 16 is not appropriate since it not only stands for "**pilot symbols**" in line 13, but it also stands for "**pilot signal**" in line 15. The examiner suggests deleting this acronym.

i) Term "**command by**" in page 9 line 30 is not appropriate. The examiner suggests changing this term to "**commanded by**".

k) Term "**signalling**" in page 15 line 25 is misspelling. The examiner suggests changing this term to "**signaling**".

l) Acronyms "**IT**" in page 16 line 7 stand for "**time interval**" is not appropriate. The examiner suggests changing this term to "**TI**".

m) Term "**it most important**" in page 36 line 12 is not appropriate since missing the verb "be". The examiner suggests changing this term to "**it is most important**".

n) Term "**MS may each**" in page 37 line 21 is not appropriate. The examiner suggests changing this term to "**MS each may**".

o) Term "**increase of error**" in page 38 line 20 is not appropriate. The examiner suggests changing this term to "**increases of error**" to be suitable with subject "this" in line 19.

p) Phrase "**control means RNC always a transmission buffer means**" in page 39 line 5 is not appropriate since it is missing a proper verb. The examiner suggests the Applicant inserting a proper verb for this phrase.

q) Term "**ration**" in page 43 line 19 is not appropriate. The examiner suggests changing this term to "**ratio**".

r) Acronym "**CDDM**" in page 45 line 7 stands for "compressed mode determining means" is not appropriate. The examiner suggests changing this term to "**CMDM**".

Claim Objections

6. Claim **55** is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only, and cannot depend on more than one claim See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

7. Claims **1-13**, **15-41** and **43-60** are objected to because of the following informalities:

a) Claim **17**: Term "**wether**" in line 2 is misspelling. The examiner suggests changing this term to "**wherein**".

b) Claim **33**: Claimed language for the limitations of the network control means recited from lines 8-15 is not clear. The examiner suggests inserting a comma "," between term "**measurements**" and term "**and**" in line 9 as follows: "**measurements, and**".

c) Claim **43**: Term "**a a data**" in line 14 is misspelling. The examiner suggests changing this term to "**a data**".

d) Claims **1-13**, **15-41** and **43-60**: Acronyms that are enclosed by parentheses such as, (**RNC**), etc. and all subsequences recited in these claims are not appropriate.

The examiner suggests removing all of enclosed-parentheses acronyms off these claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

9. Claims **1-43** and **56-60** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. **Claim 5** recites the limitation "**said IF handover request means (HORM)**" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

11. **Claims 6 and 7** recite the limitation "**said IF handover means (HORM)**" in line 2. There is insufficient antecedent basis for this limitation in the claim.

12. **Claim 1:** Terms "**(GSM; WCDMA)**" in line 2. Terms enclosed inside parentheses are not considered as the subject matter of claimed limitations.

13. **Claim 5:** Terms "**(NEHO; MEHO)**" in line 4. Terms enclosed inside parentheses are not considered as the subject matter of claimed limitations.

14. **Claims 13, 22 and 57- 60:** Terms "**(ST21; ST21''; ST21''')**" in line 2, "**(GSM; WCDMA)**" in lines 3-4, "**(ST211)**" in lines 6 and 10, and "**(ST212)**" in lines 15 and 17.

Terms enclosed inside parentheses are not considered as the subject matter of claimed limitations.

15. **Claim 15:** Terms “(ST13)” in line 2. Terms enclosed inside parentheses are not considered as the subject matter of claimed limitations.

16. **Claim 16:** Terms “(ST13; ST211)” in line 3. Terms enclosed inside parentheses are not considered as the subject matter of claimed limitations.

17. **Claim 17:** Terms “(ST11)” in line 2, “(ST13)” in line 5, and “(NEHO; MEHO)” in lines 6-7. Terms enclosed inside parentheses are not considered as the subject matter of claimed limitations.

18. **Claim 18:** Terms “(ST11)” in line 2 and “(ST13)” in line 9. Terms enclosed inside parentheses are not considered as the subject matter of claimed limitations.

19. **Claim 19:** Terms “(ST11)” in line 2. Terms enclosed inside parentheses are not considered as the subject matter of claimed limitations.

20. **Claim 31:** Terms “(ST21’)” in line 8, “(ST21’)” in line 12 and “(ST21’)” in line 18. Terms enclosed inside parentheses are not considered as the subject matter of claimed limitations.

21. **Claim 33:** Terms “(GSM; WCDMA)” in line 1. Terms enclosed inside parentheses are not considered as the subject matter of claimed limitations.

22. **Claim 36:** Terms “(NEHO; MEHO)” in line 7. Terms enclosed inside parentheses are not considered as the subject matter of claimed limitations.

23. **Claim 56:** Terms “(GSM; WCDMA)” in line 2. Terms enclosed inside parentheses are not considered as the subject matter of claimed limitations.

Claim Rejections - 35 USC § 102

24. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

25. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

26. Claims **1-3, 5, 6, 8, 10, 11, 13-15, 17, 18, 20, 21, 31, 33-36, 38, 39** and **42-44** are rejected under 35 U.S.C. 102(e) as being anticipated by Willars (US 6,597,679).

a) **Regarding to Claim 1:** Willars discloses a telecommunications system employing WCDMA technology to utilize compressed mode techniques for allowing a mobile station to take measurements on another frequency in preparation for inter-frequency transfer. In which, a subscriber station of a mobile communication system having at least one base transceiver station and a network control means (see MS, BS_A and BS_B, and RNC in Fig. 3; and MS₁₀₀, BS1 and BS2, and UTRAN 200 in Fig. 7), including an inter-frequency measurement means adapted to perform IF measurements (see Abstract: "utilizes compressed mode techniques for allowing a mobile station to

take measurements on another frequency in preparation for inter-frequency transfer.”),
comprising:

a time interval signal detection means adapted to detect in a transmission (see boxes 30, 31A, 31B, 32 and 33 inside the box of MS in Fig. 3) from said network control means an IF measurement time interval indication signal (see measurement order 201 in Fig. 7) indicating a time interval (see slot 104B in Fig.5 and slot 109 in Fig. 6 for a time interval) of an established connection between said subscriber station and said base transceiver station in which IF measurements are to be carried out by said subscriber station (see measurement in box 206 in Fig.7), wherein said IF measurement means is adapted to perform said IF measurements in said time interval indicated in said IF measurement time interval indication signal (see Abstract: “Once the mobile station receives the slot from the WCDMA base station, the mobile station is confident that the slot will conform to the characteristics that the mobile station needs in order to make the appropriate measurements”; and see col.3 lines 56-60 for inter-frequency measurements).

b) **Regarding to Claim 2:** Subscriber station according to claim 1, wherein said IF measurement means is adapted to carry out said IF measurements over the entire time interval (see Measurement Order 201 in Fig. 7 for the IF measurement trigger signal; and see col.7 lines 45-48 for performing the IF measurements).

c) **Regarding to Claim 3:** Subscriber station according to claim 1, wherein said IF measurement means is adapted to start performing said IF measurements in said time interval in response to an IF measurement trigger signal (see Measurement Order

201 in Fig. 7 for the IF measurement trigger signal; and see col.7 lines 59-61 for starting performing IF measurements).

d) **Regarding to Claim 5:** Subscriber station according to claim 3 or 4, wherein said IF measurement trigger signal is generated by an IF handover means when said IF handover means determines that transmission conditions in said mobile communication system necessitate an IF handover of said subscriber station (see diversity handoff control in box 36 inside RNC in Fig.3; this means that a IF measurement trigger signal is generated by an IF handover means; and see MS and BS 54 in Fig.4 for transmission conditions necessitated an IF handover of the MS).

e) **Regarding to Claim 6:** Subscriber station according to claim 3 or 4, wherein said IF handover means is located in a network control means (see box 36 inside RNC in Fig. 3 for the IF handover means) of said mobile communication system and is adapted to transmit said IF measurement trigger signal to said subscriber station via a base transceiver station in response to determining a network-evaluated handover (see UTRAN 200, slot spec 204, BS1, and MS 100 in Fig 7).

f) **Regarding to Claim 8:** Subscriber station according to claim 1, wherein said subscriber station comprises a connection quality monitoring means adapted to monitor the quality of service on the established communication connection and to transmit information of the quality of service to said network control means.

Willars did not explicitly disclose a MS that comprises a connection quality monitoring means; however Willars implicitly discloses a diversity combiner means 33 located inside the MS in Fig. 3. Furthermore, Willars clearly mentions about a quality of service

for a MS in a mobile communication system (see col.3 lines 9-17; and col.5 line 60 – col.6 line 3 for the mobile station would be better serviced). Therefore, it is inherent that Willars does disclose all subject matters of the claimed limitations of the Claim 8.

g) **Regarding to Claim 10:** Subscriber station according to claim 1, wherein during said connection a loss-sensitive and/or delay-sensitive data transmission is performed between said base transceiver station and said subscriber station (see col.3 lines 38-40 wherein a speech and video connections for loss-sensitive and/or data packet connection for delay data transmission).

h) **Regarding to Claim 11:** Subscriber station according to claim 1, wherein a data transmission between said subscriber station and said base transceiver station is carried out via a transmission of data frames including a data portion and a control portion (see Frame 103 in Fig.5; Willars does not show a frame in which having a control portion and data portion as that of the applicant; however, the control portion and data portion in a frame is an official notice like it is shown in Fig.4-1 of the admitted prior art), wherein said data transmission between said subscriber station and said base transceiver station is carried out in a compressed mode by compression of transmission data in said data portion in at least one time slot such that an idle time interval is provided in said time slot where no data transmission occurs (see slot 104B in Fig.5 and slot 109 in Fig.6; col.2 lines 44-46; and col.9 lines 4-10, wherein no data transmission occurs in such an idle time interval), wherein said subscriber station contains a compression-mode determining means for determining data transmission in said compressed mode and wherein said time interval corresponds to a number of data

frames indicated in said IF measurement time interval indication signal and a number of idle time intervals of data frames where data transmission is carried in a compressed mode (see Abstract and slots 104B and col.4 lines 1-15).

i) **Regarding to Claims 13-15, 17, 18 and 20:** The subject matters of the claimed inventions of claims 13-15, 17, 18 and 20 are the same as that in claims 1-3, 5, 6 and 8 respectively. Therefore, the rejections on Claims 1-3, 5, 6 and 8 would apply to Claims 13-15, 17, 18 and 20 respectively, in a method as taught.

j) **Regarding to Claim 21:** The subject matters of the claimed inventions of claim 21 are similar to that in claim 20 except for a base transceiver station. Therefore, the rejections on Claim 20 would apply to Claim 21, in the base transceiver station as taught.

k) **Regarding to Claim 31:** The subject matters of the claimed inventions of claim 31 are similar to that in claim 43. Therefore, the rejections on Claim 43 would apply to Claim 31, in a method as taught.

l) **Regarding to Claim 33:** Mobile communication system including at least one subscriber station including an inter-frequency measurement means adapted to perform IF measurements and at least one base transceiver station and a network control means for performing data transmissions with said subscriber station during a connection (see Fig.7 for a mobile communication system), comprising:

said network control means comprising an IF measurement time interval selecting means (see boxes 34-36 in RNC in Fig.3) adapted to select a time interval of said connection in which said subscriber station is to carry out IF measurements (see

slot 104B in Fig.5 and slot 109 in Fig.6 for a time interval), and adapted to send to said subscriber station an IF measurement time interval indication signal indicating said time interval (see slot spec 204 in Fig. 7); and

said subscriber station comprising a time interval signal detection means adapted to detect in a transmission from said network control means said IF measurement time interval indication signal indicating said time interval, wherein said IF measurement means is adapted to perform said IF measurements in said time interval indicated in said detected IF measurement time interval indication signal (see the rejection on the subscriber station described in the claim 1).

m) Regarding to Claim 34: System according to claim 33, wherein said IF measurement means is adapted to carry out said IF measurements over the entire time interval (see slot 109 in Fig.6 wherein the MS switches from frequency F1 to frequency F2 to receive a transmission corresponding to base station 54 in Fig.4, and entire slot 109 is used for carrying out the IF measurement, see col.7 lines 59-61).

n) Regarding to Claim 35: System according to claim 34, wherein said IF measurement means is adapted to perform said IF measurements in response to an IF measurement trigger signal (see Measurement Order 201 in Fig. 7 for the IF measurement trigger signal; and see box 206 in Fig.7 for IF measurements).

o) Regarding to Claims 36, 38 and 42: The subject matters of the claimed inventions of claims 36, 38 and 42 are the same as that in claims 5, 8 and 10 respectively. Therefore, the rejections on Claims 5, 8 and 10 would apply to Claims 36, 38 and 42 respectively, in a mobile communication system as taught.

p) **Regarding to Claim 39:** The subject matters of the claimed inventions of claim 39 are similar to that in claim 38 except for a base transceiver station. Therefore, the rejections on Claim 38 would apply to Claim 39, in the base transceiver station as taught.

q) **Regarding to Claim 43:** System according to claim 33, wherein a data transmission between said base transceiver stations and said subscriber station is carried out by transmitting data frames including a control portion and a data portion (see Frame 103 in Fig.5; Willars does not show a frame in which having a control portion and data portion as that of the applicant; however, the control portion and data portion in a frame is an official notice like it is shown in Fig.4-1 of the admitted prior art), wherein said network control means comprises a compressed mode operation means (see boxes 34-36 inside RNC in Fig. 3) adapted to compress in a compressed mode of operation data in said data portion in at least one time slot of a data frame such that an idle time interval is provided in said time slot where no data transmission occurs (see slot 104B in Fig.5 and slot 109 in Fig.6; col.2 lines 44-46; and col.9 lines 4-10, wherein no data transmission occurs in such an idle time interval), wherein said subscriber station comprises a compressed mode determining means for determining a data transmission in said compressed mode and wherein said time interval corresponds to a number of data frames indicated in said IF measurement time interval indication signal as well as a number of idle time portions of data frames where data transmission is carried in a compressed mode (see Abstract and slots 104B and col.4 lines 1-15).

r) **Regarding to Claim 44:** Network control means of a mobile communication system for controlling data transmissions between at least subscriber station and at least one base transceiver station on an established connection, comprising:

said network control means comprising an IF measurement time interval selecting means adapted to select a time interval of a connection in which said subscriber station is to carry out IF measurements and adapted to send to said subscriber station an IF measurement time interval indication signal indicating said time interval.

The claimed limitations of this claim are similar as that of the network control means recited in the claim 33 except for the claimed limitation of at least subscriber station in the mobile communication system. However, Willars also discloses such a claimed limitation (see mobile stations in col.6 lines 14-15, and see Fig.1).

Claim Rejections - 35 USC § 103

27. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

28. Claims 7, 19 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willars (US 6,597,679) in view of the admitted prior art (Figure 1 Prior Art)

a) **Regarding to Claim 7:** Subscriber station according to claim 3 or 4, wherein said IF handover means is located in said subscriber station and is adapted to output

said IF measurement trigger signal in response to determining a mobile-evaluated handover.

Willars fails to teach an IF handover means (HORM) that is located inside a subscriber station (MS). The admitted prior art clearly discloses such a HORM that is located inside the MS (see HORM inside MS in Fig.1 of Prior Art). Therefore, it would have been obvious to one of ordinary skilled in the art to provide such a HORM located inside the MS of Willars, as taught by the admitted prior art so that such a HORM can be monitored by the MS, and the MS can roam between neighboring cells, handover inter-frequency or inter-system more efficient. A suggestion for a motivation to implement such a HORM located inside a MS by using the diversity combiner box 33 inside the MS in Fig.3 and col.5 lines 29-39.

b) **Regarding to Claim 19:** The subject matters of the claimed inventions of claim 19 are the same as that in claim 7. Therefore, the rejections on Claim 7 would apply to Claim 19, in a method as taught.

c) **Regarding to Claim 37:** The subject matters of the claimed inventions of claim 19 are the same as that in claim 7. Therefore, the rejections on Claim 7 would apply to Claim 37, in a mobile communication system as taught.

Claim Rejections - 35 USC § 103

29. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

30. Claims **4, 16, 45** and **46** are rejected under 35 U.S.C. 103(a) as being unpatentable over Willars (US 6,597,679) in view of Sakoda et al. (US 5,999,580):

a) Regarding to **Claims 4, 16** and **45**: Willars fails to teach an IF measurement time interval indication signal is contained in an IF measurement trigger signal. Sakoda et al. teach such an IF measurement time interval indication signal (see col.10 lines 56-60). Therefore, it would have been obvious to one of ordinary skilled in the art to provide such an IF measurement time interval indication signal by modifying slot 104B of Willars, as taught by Sakoda et al. so that a MS in a mobile communication system can take IF measurements in time to determine that an IF handover is necessary.

b) **Regarding to Claim 46**: Network control means according to claim 45, including: an IF handover request means adapted to determine whether transmission conditions in said mobile communication system necessitate an IF handover of said subscriber station and to generate said IF measurement trigger signal when it is determined that an IF handover is necessary (see diversity handoff control in box 36 inside RNC in Fig.3; this means that a IF measurement trigger signal is generated by an IF handover means; and see MS and BS 54 in Fig.4 for transmission conditions necessitated an IF handover of the MS).

Allowable Subject Matter

31. **Claims 9, 12, 23-30 and 47-54** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

32. The prior art made of record is considered pertinent to applicant's disclosure is relating to the field of handover in a mobile communication system: Hottinen et al. (US 6,611,507); Kuo et al. (US 6,181,943); Tiedemann et al. (US 5,999,816); Czaja et al. (US 6,078,570); Kwon et al. (US 6,449,481); Odenwalder (US 6,603,751); Sarkar et al. (US 6,587,446); Kim et al. (US 6,563,807); Peterson (US 6,567,670); Kim (US 6,665,281); and Tigerstedt (US 6,615,044).

Examiner Information


33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T Ton whose telephone number is 703-305-8956. The examiner can normally be reached on M-F: 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Olms can be reached on 703-305-4703. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 2661

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

ATT



KENNETH VANDERPUYE
PRIMARY EXAMINER